WC Docket No. 11-59

Comments on the FCC Notice of Inquiry Regarding Access to Public and Private Rights-of-Way

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Executive Summary

The Piedmont Environmental Council has extensive comments. They add up to the need for the FCC to:

- Use the statutory term "personal wireless service facilities."
- Not use the meaningless term "wireless facilities."
- Not create two classes of broadband: personal wireless service facilities and non-personal wireless service facilities.
- Explain how existing wireless users of the right-of-way will be allowed to "upgrade" their equipment with any degree of control by local government.
- Explain how the National Environmental Policy Act (NEPA) regulations will apply to proposals in the right-of-way.
- Explain how right-of-way permits, which are ministerially granted, can be substituted for zoning decisions, which are discretionary acts.
- Explain how right-of-way deployment immediately adjacent to residences can be measured, reviewed and monitored for radio frequency (RF) emissions.
- Explain how wind, ice and snow loading on utility poles will be evaluated by right-of-way decision-makers unfamiliar with ANSI standard EIA/TIA 222-G.
- Explain how "substantial evidence in a written record" will be used in applications for Broadband in the right-of-way.
- Explain to homeowners and tenants, living next to locations proposed for installation of "wireless facilities" in the right-of-way, how they can become involved in the ministerial process of granting permission.

There is a Telecommunications Act of 1996 and a Conference Committee report by the U.S. Congress on that law. These documents preserve local zoning authority over personal wireless service facilities with certain limitations. The FCC needs to review the Committee report and the law and refrain from curtailing local zoning authority over personal wireless service facilities.

1. Introduction

These comments are from the Piedmont Environmental Council (PEC), a non-profit citizen's group active in nine counties of North Central Virginia. PEC's mission is to preserve the natural, scenic and historic values of this vital region of the U.S.

The PEC region is the Northern Piedmont, as shown in Figure 1. The region's key attributes are open spaces, natural viewshed, historic features, agricultural activity and clean air and water. Protecting these attributes, while recognizing the importance of economic vitality, has always been, and remains PEC's core organizational goal. Figure 1 shows the PEC Region and the extent to which our lands are protected.

Rights-of-way criss-cross the Northern Piedmont, providing the primary means of seeing and accessing our urban, suburban and undeveloped landscape.

PEC serves our cities, towns and county government. PEC provides counsel and information on issues that affect the region's health and vitality. Our tourists view the scenic grandeur from rights-of-way, including the famous Skyline Drive. Our mountains are channeled by energy rights-of-way. Our population is rapidly urbanizing and many residents live within a stone's throw of a public right-of-way. PEC is vitally concerned about the unfettered proliferation of wireless infrastructure in our rights-of-way, and we offer these comments for FCC's consideration.

2. Definitions

In this section, PEC recognizes that the FCC wants to open up the nation's rights-of-way. But how can we start a national conversation about that unless we agree on terms? Will there be FCC rules and regulations? If so, will the terminology used be understood by all? Will the terminology be consistent with the law of the land? Or, can the FCC invent terminology at will? PEC begins by asking: just what is it that is going to be allowed in the right-of-way?

In promulgating its Notice (WC Docket No. 11-59), the FCC has employed terminology which PEC finds misleading and confusing. PEC seeks to clarify our understanding and intent of the Notice.

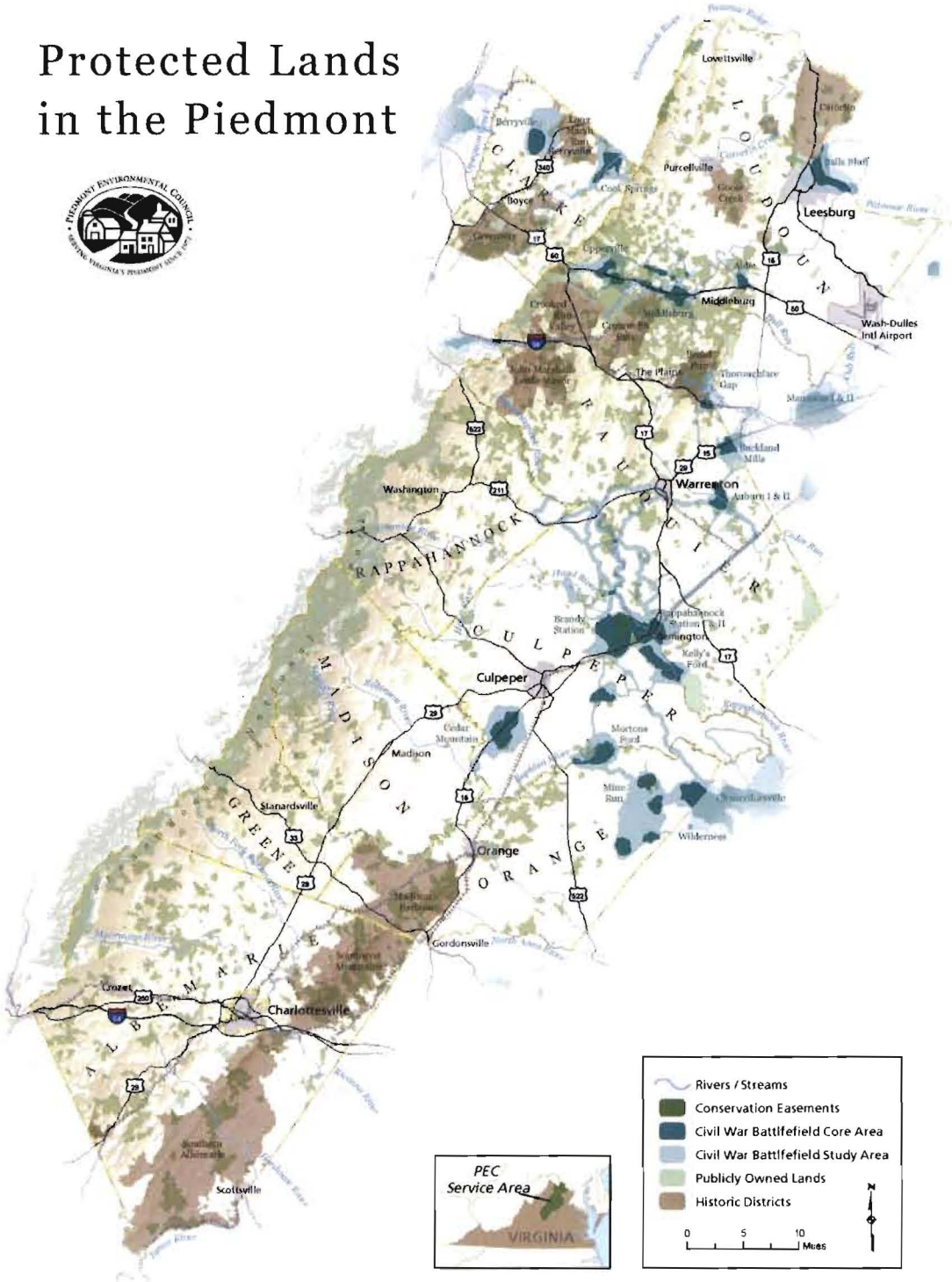

Figure 1: Protected Lands in the Piedmont Region

Source of map: PEC.

a. *Broadband*

The notice uses the term "broadband" interchangeably with "advanced telecommunications capability" as noted in Footnote 1, page 1 of the Notice of Inquiry Regarding Access to Public and Private Rights-of-Way. The reader of these comments is referred to both the Telecommunications Act of 1996 and the Broadband Data Improvement Act, now codified in Title 47, Chapter 12 of the United States Code.

In Section 1302(d) of the Broadband Data Improvement Act:

> *The term "advanced telecommunications capability" is defined, without regard to any transmission media or technology, as high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology.*

This term "Broadband" is quite broad, including many deliberately precise types of FCC categories, including Broadband Radio Services (BRS) and Advanced Wireless Services (AWS). PEC draws the inference that any telecommunications mode that is extremely fast and thus high in bandwidth is going to be allowed in the right-of-way.

In referring to the Telecommunications Act of 1996, however, there is only one general type of service referred to and that is "personal wireless services." The term is precise and defined as follows:[1]

> *the term "personal wireless services" means commercial mobile services, unlicensed wireless services, and common carrier wireless exchange access services;*

Only some personal wireless services are "broadband" and most "advanced telecommunications capability" services are not personal wireless services.

The distinction is critical, since the Telecommunications Act of 1996 governs the way in which state and local governments regulate siting of what the FCC once called "towers." In the Telecommunications Act, special limitations are prescribed for approving or denying "personal wireless service facilities."

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[1] Section 332(c)(7)(A)(i).

b. Personal Wireless Service Facilities

Similar to "advanced telecommunications capability," this term is a mouthful and has all but disappeared from FCC documents. Yet, "personal wireless service facilities" is a statutorily defined term, as follows:[2]

> *the term 'personal wireless service facilities' means facilities for the provision of personal wireless services;*

The FCC prefers to use the term "wireless facilities' throughout the Notice, but "wireless facilities" is a much broader term than "personal wireless service facilities." Personal wireless service facilities have limitations (and protections) attached to them by the Telecommunications Act that "wireless facilities" do not have. The FCC cannot merely change terminology that is codified in the law.

The result of grouping personal wireless service facilities with "wireless facilities" leads the reader of the Notice to believe that the FCC can promulgate rules and regulations for all "wireless facilities" that will equally apply to personal wireless service facilities.

PEC does not accept this conflation. Mere "wireless facilities" can be installed within the right-of-way today, and most certainly after the FCC deliberates, by filling out a form from a local government, paying a fee to that local government and constructing within given specifications. Personal wireless service facilities, on the other hand, have always required that:[3]

> *Any decision by a State or local government or instrumentality thereof to deny a request to place, construct, or modify personal wireless service facilities shall be in writing and supported by substantial evidence contained in a written record.*

Entry into the right-of-way is not made by decisions requiring substantial evidence and, in an attempt to allow personal wireless service facilities in the right-of-way without meeting the above requirement for denial, a decision-maker would be in direct violation of the Telecommunications Act of 1996. These comments expand on this concern in a later section of this report.

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[2] Section 332(c)(7)(A)(ii).

[3] Section 332(c)(7)(A)(iii).

c. *Aesthetics*

The FCC uses this term in the Notice of Inquiry Regarding Access to Public and Private Rights-of-Way[4] and elsewhere. When related to personal wireless service facilities, the term "aesthetics" is pejorative and can actually work against a local government's best intentions. In some states, such as the Commonwealth of Virginia, courts do not recognize denial of personal wireless service facilities on the basis of "aesthetic" concerns alone. Using the word "aesthetics" actually steers the local government down the wrong track, since aesthetics may not be a defensible concern.

Webster's defines "aesthetic" as "of beauty" or "sensitive to art and beauty."[5] No one ever expects a personal wireless service facility to be a thing "of beauty" or "sensitive to art and beauty." To use the word "aesthetics" sets up false expectations and the FCC would be wise and respectful of local governments not to use the term.

PEC and other knowledgeable entities use "visual impacts" to measure a personal wireless service facility's appearance. More important, PEC stresses the term "scenic" as a value, rather than aesthetics. The term "scenic" derives from the National Scenic Byways Program, the Scenic Byways of Virginia and the many scenic drives and scenic highways in every state. Most of these byways, drives and highways are within rights-of-way. The importance of the term "scenic" is that it carries with it context, including:

- History
- Environmental quality
- Economic importance

PEC stresses the term "scenic" because it is used everywhere and it is a value almost always enjoyed from within a right-of-way.

With regard to its visual impacts or its scenic enhancement, how could a right-of-way decision-maker ever evaluate a proposed personal wireless service facility from required application forms, or specifications, or even photos and drawings? Visual impacts and scenic qualities are perfect examples of measurements requiring substantial evidence.

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[4] WC Docket No 11-59, p. 9.

[5] Webster's New World Dictionary, p. 21.

d. Wireless Facilities

By introducing the non-descript term "wireless facilities" into a national conversation, the FCC does itself and its commenters an injustice. By transitioning from its preferred term, "towers," the FCC is now better positioned to place "wireless facilities" rather than "towers" in the right-of-way. Yet, the FCC has consistently used the word "towers" from its early Fact Sheets in 1996 to each of the FCC Commissioners' statements on the importance of the implementing the National Broadband Plan.[6]

The FCC tells Americans that there are approximately 300,000 wireless sites in the U.S. This is the same number used by CTIA, the Wireless Association. PEC believes that this is substantially less than the actual number of personal wireless service facilities in the U.S. today. Some possible reasons for this undercounting are:

- CTIA counts "towers," not personal wireless service facilities.
- There are an average of 2.5 personal wireless service facilities on a "tower." This number does not include Broadband Radio Services, Wireless Communications Services, Mobile Satellite Services and a variety of other non-personal wireless service facilities found on "towers."
- Towers do not include "roof-mounts," many of which are personal wireless service facilities.
- Towers are rarely "nodes" in a Distributed Antenna System (DAS) configuration, although these comments contain a description of an attempt to install towers in a right-of-way configuration disguised as a DAS.
- Unpermitted personal wireless service facilities exist in all states both as collocations and concealed roof-mounts.

While the use of the term "towers" may suit the purposes of CTIA, it does not suit the purposes of the FCC in an attempt to locate "wireless facilities" in the right-of-way. That's because most readers will believe that "towers" are too big for the right-of-way. And so we, as readers of the Notice, are skeptical of this new term coming from nowhere. More important, "wireless facilities" is not a term conducive to a national conversation that respects the protected and limited status of personal wireless service facilities. It's not conducive to conversation because the term doesn't have a meaning.

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[6] March 17, 2010.

PEC asks the FCC, "Just what is a "wireless facility"? Is it a dish, a whip, cables, a box, a mast, an array, a free-standing post, or all of these things? If the FCC plans to let "wireless facilities" into the right-of-way, the FCC should at least tell the public what they are. One thing is certain: "wireless facilities" are not the same as "personal wireless service facilities."

3. A General History of Wireless in the Right-of-Way

This section is provided to ask the question, "Why do we need to ease the hurdles to enter the right-of-way when so many 'wireless facilities' are already in the right-of-way"? PEC prefers the word "hurdle" to "barrier," because barrier means stonewall. Hurdle means "get over" or "workaround." This section provides photographs to make a point. The "barriers" have been broken long ago, or else how did so many "wireless facilities" get in the right-of-way before?

While the terms "broadband" and "wireless facilities" are recent inventions of the FCC, the placement of wireless in the right-of-way has been going on for years. As shown in Figure 2, public safety, traffic control and utility management have been using public and private rights-of-way for their own purposes, sometimes with local approval, usually without any outside agency oversight. The question is: are these "wireless facilities" subject to issues raised in the Notice, or are previous users of the right-of-way exempt from future FCC rules and regulations now being contemplated?

One response to the question of previous users is, "Well, they don't have advanced telecommunications capability and, therefore, they aren't broadband." PEC reminds the FCC that wireless systems that initially were installed as analog or digital networks with limited capacity facilities are now being upgraded to accommodate broadband capability. For the four (soon to be three) national carriers, the following upgrades are occurring at most sites all over the U.S.:

- AT&T Mobility and Verizon are adding 700 MHz services, thereby advancing to LTE.
- Sprint is either collocating or connecting to nearby Clearwire, thereby adding WiMAX capability.
- T-Mobile is adding AWS, thereby allowing them to advance (according to T-Mobile) to 4G.

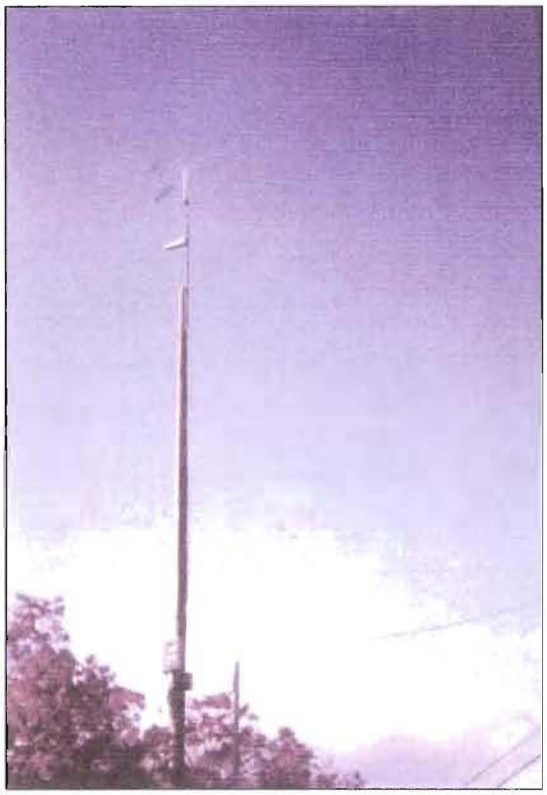
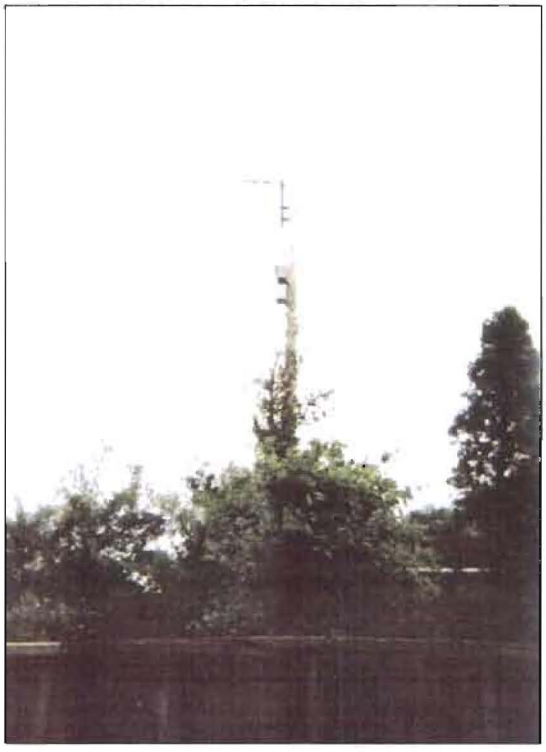


Figure 2: Public and quasi-public utilities have been placing wireless in the right-of-way for years. What is it they know that the FCC could learn from? Or are they exempt from any new FCC rules or regulations because they are already in the right-of-way? The FCC should take note that because an agency has a franchise to deliver electricity, water or any other essential service, it does not mean that same agency has a franchise to deploy wireless.



So, for personal wireless service facilities, if they weren't broadband when installed, do they become broadband when they upgrade? Figures 3 and 4 show a right-of-way mount upgrading from 2G (digital) to 3G.

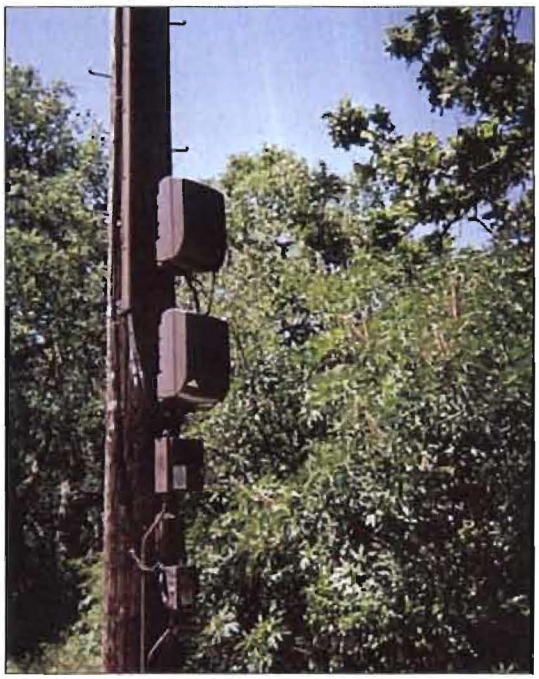


Figure 3: This 2G (digital) mount has been in the right-of-way for more than 10 years.

Figure 4: The same right-of-way pole in Figure 3, only upgraded to 3G. The boxes get bigger, the cables multiply and the stress on the pole increases. When this carrier upgrades to LTE, the pole will need to be changed to steel. Who from the local government approves that and who monitors the increased RF emissions?

Some utilities use Specialized Mobile Radio, a personal wireless service, without seeking approvals from the local government for their personal wireless service facilities in the utility's own right-of-way. Why should they? They are already franchised to be in the right-of-way, and the personal wireless service facility is only to facilitate the utility's own business. Would a utility's own equipment, such as that shown in Figure 5, be considered "wireless facilities"? If, as a previous user, the utility was only using a narrow band for data but wanted to upgrade to broadband, would the new rules and regulations apply?

The same questions apply to public safety wireless networks. When they were initially installed, tiny whips on traffic lights or light poles may only have been used to control traffic or call police cruisers. Today, cities and counties are looking to next generation networks that will have advanced telecommunications capability. Existing facilities will need to be upgraded. Will the new rules and regulations apply to them?

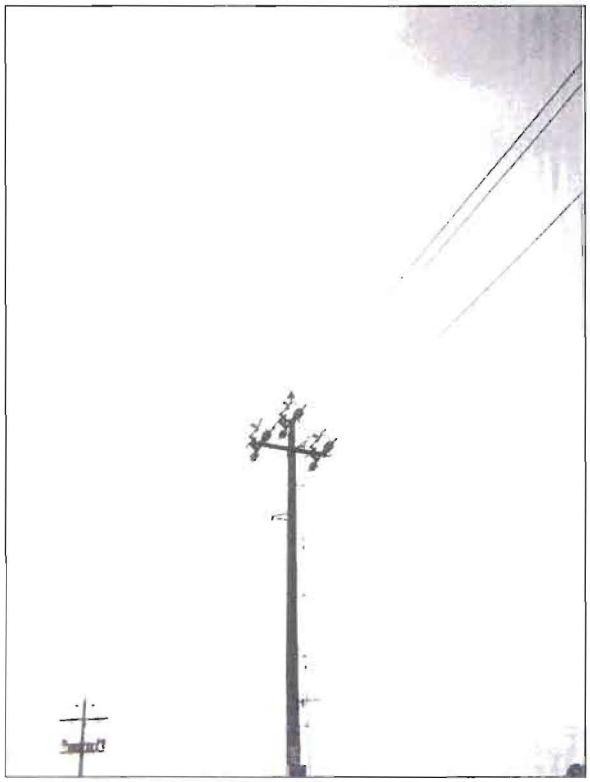


Figure 5: Pacific Gas & Electric's simple wireless network has been installed in the right-of-way for years. The three mini-antennas hardly distinguish the top of the wireless pole from the normal pole in the background. Note the backhaul cable pushed off from the pole and the yagi antenna projected mid-pole. Will this system upgrade to Broadband? Perhaps that is why PG&E is petitioning the CPUC for weaker pole standards.

Wireless in the right-of-way has existed for years. One could ask, "What's the entry problem; they're in the right-of-way, aren't they"? If the answer is, "Broadband requires many more sites, and the rights-of-way will be the best location." The following questions are raised:

- How many sites will there be per mile of right-of-way?

- How many facilities can there be on a single pole?
- Will pre-existing users be subject to the new rules and regulations when they upgrade to broadband?
- Are public (police/fire) and semi-public (utilities) using "wireless facilities" or will they be exempt from the new rules and regulations?

Existing wireless in the right-of-way raises questions and doubts about opening up all rights-of-way to more broadband users as well as the upgrade plans of existing right-of-way users.

4. Case Study: Norfolk Southern Right-of-Way in the PEC Region

This section is provided to document PEC's own experience with an attempt to deploy in a private right-of-way. There was no zoning that could be applied (Fauquier County's zoning does not apply in the right-of-way). PEC took an active position in forcing this project to be more thoroughly scrutinized. But, if there wasn't a PEC, there would be no substantial evidence, there would be no public discussion and there wouldn't even be a bureaucrat to perform a ministerial function of approval. It was a stealth project.

In 2010 a company named City Switch proposed to build seven, 80-foot cell towers along the Norfolk Southern railroad right-of-way crossing from western Prince William County through Thoroughfare Gap, and into The Plains. The proposed project became know as The Plains DAS project. Much of this area is under conservation easement or located in a historic district.

a. City Switch L.L.C.

City Switch is an affiliate of Norfolk Southern Corp. According to the former (now revised) Norfolk Southern website:

> *City Switch L.L.C. was created by Norfolk Southern Railroad and a group of seasoned telecommunications professionals to develop and manage railroad communication infrastructure. City Switch focuses on three strategic areas: new tower development, collocation opportunities on existing towers and fiber and microwave backhaul opportunities. City Switch develops towers throughout the Norfolk Southern Railroad system and for other Railroad partners.*

On a blog posted by *RCR Wireless News* on 11/6/06, City Switch is said to have stated the following about its right-of-way property:

> *(because its right-of-way)…. is controlled by the federal government (City Switch) can build pretty much as it sees fit, provided that the towers be used to some extent for railroad purposes.*

Presumably, this meant (as City Switch claimed) that it did not need to comply with local zoning regulations. Norfolk Southern has since sold off 60% of its share in City Switch. However, City Switch has had at least one problem with their claim that they did not need to comply with local zoning requirements.

In 2008, City Switch began construction of a tower on a Norfolk Southern Railroad yard after their application for a building permit was denied by Schuylkill Township, Pennsylvania. The application was denied due to non-compliance with township ordinances. City Switch claimed their tower fell under ICCTA[7] jurisdiction and, as such, no local building permit was needed. Construction was started and the tower was erected. The township issued a stop work order and a lawsuit was filed by the township against City Switch in Chester County Court; the case was moved to Federal Court by City Switch but the Federal District Court remanded the case back to the County Court. A settlement between the Township and City Switch was reached that provided the following:[8]

> *For technical reasons, the recently constructed tower located in Schuylkill Township has been deemed incompatible with railroad usage, and will be removed from its base, including the base bolts within ninety (90) days from the date of Schuylkill Township's acceptance of the settlement terms set forth ... County Court Judge Jacqueline C. Cody will retain jurisdiction over the case until the terms in the settlement agreement are met.*

A Section 106 Review, pursuant to FCC NEPA regulations and the national Historic Preservation act, 26 CFR Part 800, was prepared for The Plains DAS site in the PEC area by a company called ECA. ECA was retained by a company called Salient Associates.

b. Salient Associates

The Section 106 Review states:

> *Environmental Corporation of America (ECA) client, Salient Associates, is proposing to construct seven wooden poles (each 80 feet overall height) at*

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[7] Interstate Commerce Commission Termination Act.

[8] Schuylkill Township, Board of Supervisors, Minutes of meeting of July 7, 2010.

the subject sites as described in the following FCC Form 620, New Tower (NT) Submission Packet.

Salient Associates states on its website that they "have managed the design and construction of over 1500 wireless sites."

The ECA Section 106 Review does not provide an adequate project description. Page one of the letter from ECA to the Virginia Department of Historic Resources dated 12/3/10, describes the proposed project as the construction of:

> *... seven wooden poles (each 80 feet overall height) at the subject sites as described in the following FCC Form 620 New Tower (NT) Submission Packet.*

c. *Railroad Wireless L.L.C.*

Railroad Wireless L.L.C. is listed as the applicant on the FCC Form 620. This company currently does not have a web site and Kreines & Kreines, Inc. could find no information about this site on the internet. Presumably, the ministerial review and approval of the project was to be granted by the one employee at Railroad Wireless L.L.C.

The Federal Tower Notification Information system e-mail notifying tribal groups of the proposed project describes the proposed project as:

> *Structure Type: POLE - Any type of Pole*
>
> *Support Structure: 24.4 meters above ground level*
>
> *Overall Structure: 24.4 meters above ground level*
>
> *Overall Height AMSL: 146.9 meters above mean sea level*

ECA photographs in Attachment B, Site Information of the Section 106 Review call some of the photographs of project areas "Proposed Telecommunications Facility" and other photographs call a specific site a "Proposed Tower." Attachment B also refers to "Site Vicinity Plans" that show the locations of "proposed tower sites."

Kreines & Kreines, Inc. believes that all of these project descriptions are deficient. They do not provide readers with any information on what would be located on these seven monopoles. Monopoles are usually constructed as mounts for antennas, dishes, and platforms. There is no information provided about how many antennas would be attached to each pole. There is no information as to whether each pole would hold equipment for only one carrier or for more than one carrier. Would the poles also have public safety antennas? The antennas,

dishes and platforms are normally connected to a pole by mounting racks and all of the equipment is accessed by cables. All of these items have visual impacts that can be significant and adverse. It is impossible to identify the impacts of the proposed project without a more complete description of the project.

Materials prepared by ECA state that the poles would be made of wood, yet the Federal Tower Notification Information system e-mail states that the pole could be of any type, which could include steel.

The seven poles are described by ECA in its letter to Virginia Department of Historic Resources dated 12/3/10 as being "nodes." However, there is no description of what the "nodes" are. One of the nodes (node 2) shown in Figure 6 is described by ECA as consisting of:

> *... the construction of a 50-foot by 30-foot telecommunications compound.*

The remaining six poles would be located in nodes within 7-foot by 7-foot lease areas. A single "node" is shown in Figure 7. It sure looks like a tower being prepared for collocation to Kreines & Kreines, Inc.

In viewing materials submitted by ECA, Kreines & Kreines, Inc. became concerned that this was not so much of a Distributed Antenna Systems (DAS) project as it was a project for seven poles intended for future collocation.

From a radio frequency (RF) propagation plot submitted to Fauquier County (within the PEC area), as shown in Figure 8, it became apparent that "City Switch" was the right-of-way owner and that the actual carrier was to be AT&T Mobility. The propagation plot shows extensive coverage, particularly at the eastern and western ends of the project. Kreines & Kreines, Inc. believes that this proposed coverage from 80-foot above ground level (AGL) towers is excessive for a DAS.

One of the proposed wooden poles is shown in Figure 7. The height of the pole, accentuated by externally mounted three-sector beamed antennas, is not typical of DAS "nodes." Yet, the entire node is proposed on a seven-foot by seven-foot site inside the Norfolk Southern right-of-way. This pole could be changed out to a steel structure so that other carriers would be mounted after the DAS was approved and constructed. Kreines & Kreines, Inc. believes that this project could be a "Trojan Horse," or a right-of-way project intended ultimately for multi-tenant collocation in an area of prime historic, cultural and scenic significance.